



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/525,037

02/18/2005

Masashi Miyazaki

000560-00128

5678

27557

7590

03/23/2007

BLANK ROME LLP

600 NEW HAMPSHIRE AVENUE, N.W.

WASHINGTON, DC 20037

EXAMINER

ARBES, CARL J

ART UNIT

PAPER NUMBER

3729

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/23/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/525,037	<b>Applicant(s)</b> MIYAZAKI ET AL.	
	<b>Examiner</b> C. J. Arbes	<b>Art Unit</b> 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>hessin</u> | 6) <input type="checkbox"/> Other: _____  |

An Office Action on the merits of claims 4-6 follows.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan Pat. No.10-022639, by Teiichi et al; hereinafter Teiichi et al.

Teiichi et al teach a process for making multilayered printed wiring board. A through hole is provided whereat a metallic foil e.g. copper can be placed. The foil is electrically connected to outer layer circuitry. A roughening or etching step is performed on the surface of the foil. (Cf. Col. 22 in original Japanese document). It would have been obvious to form and transfer a conductive pattern in the through hole given the teaching of Teiichi et al. (Although Teiichi et al appears to be silent re as to whether the foil is exfoliated it would appear that the foil is exfoliated inasmuch as Teiichi et al do teach that metallization of inner walls of the through hole is provided (Cf. Col 0020 in the Japanese document). As applied to claim 6 it is held to have been obvious to use a low temperature (with low mp) e.g. Sn or Pb or their alloys to coat the "metallic pieces"

Applicants' Remarks filed on or about 18 January 2007 have been duly noted but are held not to be persuasive to the issue of patentability of said claims 4-6 for at least the following reasons. Although the Teiichi et al teaching is not as clear (because of the foreign language and consequently the translation thereof) it is clear that this reference does teach making a multilayered wiring board having a via hole that has a conductive surface by using a resin layered sheet that has metallic foil thereon,. According to Paragraph 20 of the teaching metallization of the inner wall of the via can also be provided by means of a copper foil. It appears that one of Applicants' arguments is that Teiichi et al do not teach using copper foil but instead use conductive paste or

Art Unit: 3729

electrolytic plating to provide conductive inner wall of the via. Teiichi et al teaches that a metal foil also can be used for this purpose. In summary the Office has made out a *prima facie* case for non-patentability of said claims 4-6 and Applicants have failed to properly rebut this case. Therefore the issue is joined.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563. The examiner can normally be reached on M, T, R and F from 8 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 3729

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).



C. J. Arbes  
Primary Examiner  
Art Unit 3729